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1984-1986

U.S. AUTOMOTIVE MARKET FOR ZINC DIE CASTING

U.S. Automotive Market for Zinc Die Casting

The weight of zinc die castings at work in the typical 1986 U.S.-built automobile settled at 19.7 lbs, according to this annual survey of American car makers by the Zinc Institute (ZI). The figure represents a 0.7 lb decline from the 1985 model year weight of 20.4 lbs — a drop of 3.4%.

A contributing factor is the trend away from the use of carburetors in favor of fuel injection. While some components for fuel injection systems are zinc die cast, their total weight is less than that of the traditional zinc die cast carburetors.

Think Thin

Another reason for the per car decline is the growing use of ThinWall zinc die cast parts, according to ZI analysis. ThinWall zinc components — often designed with computer assistance — make maximum use of the metal's strength and, as such, are lighter and more cost-efficient than traditionally designed die castings.

Since 1980, the weighted amount of zinc die castings used in American-built cars has dropped an average of almost a pound a year, the study found, noting that the latest change may indicate a leveling off in the per car use of zinc die castings.

Six years ago, the total was 25.0 lbs of zinc die castings in the average car. It dropped to 24.1 in 1981; 23.1 in 1982; 22.6 in 1983; 21.7 in 1984; 20.4 in 1985; and now stands at an estimated 19.7 lbs.

Based on design data secured from the four largest U.S. car builders, the survey included in its total the weight of zinc die castings used by the manufacturers to fabricate optional equipment. That figure remained stable at 8.6 lbs in 1986, after dropping 0.5 lbs the previous model year.

Sizing Up the Trends

Analyzing the data in terms of size classifications, the study noted that:

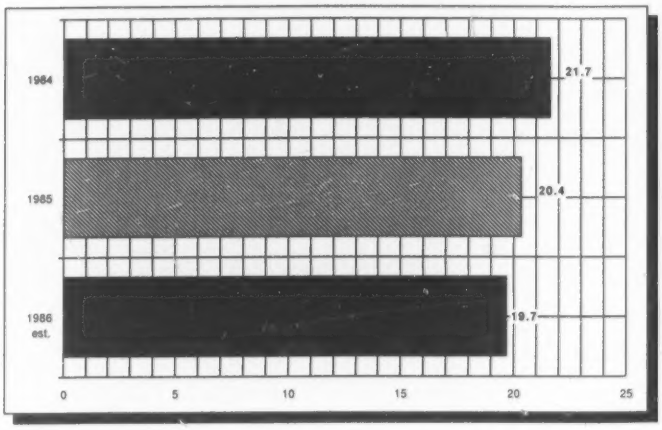
- The typical 1986 small car ran with 14.6 lbs of zinc die castings — the same as in 1985.
- Intermediate models used an average of 20.4 lbs of zinc die castings this model year .
- Standard cars functioned with 26.7 lbs in 1986, compared to the previous year's mark of 27.9.

The stabilization in the use of zinc die castings in small cars is encouraging. It supports the concept that mass-produced zinc-based components will always have a future in car making, no matter how small or light the ultimate product gets.

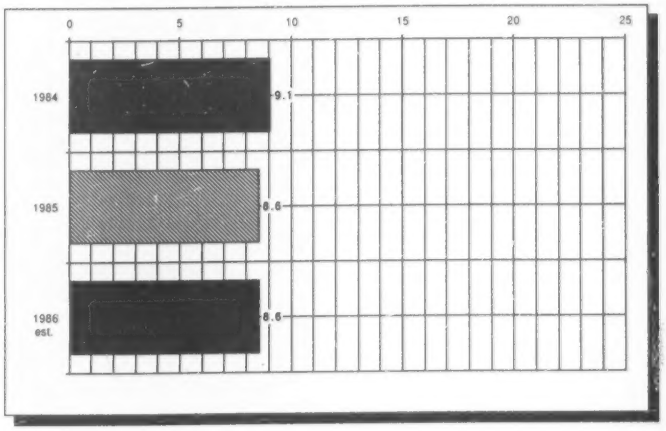
As has been the case for the past four years, General Motors led the American auto industry in its use of zinc die castings: GM's per car estimate was 21.1. Chrysler registered 18.4 lbs. The typical Ford weighed in at 17.3. American Motors tallied 11.25 lbs.

No automotive after-market, truck, van or mini-van parts production was included in the survey, which is now in its twelfth year. It is estimated that the after-market for zinc die castings accounts for 3-to-5 lbs per car, and that the typical U.S.-made truck uses from 15 lbs to 20 lbs.

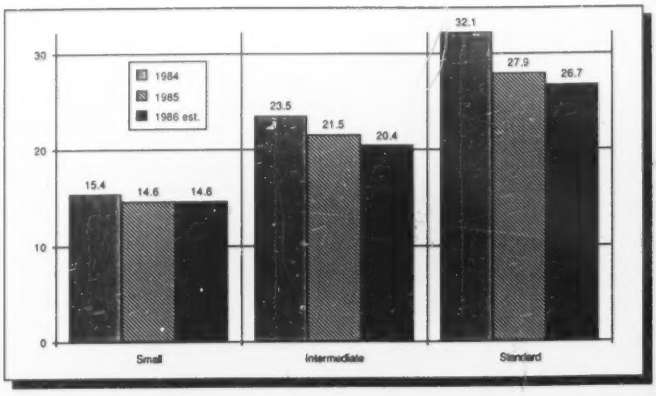
Average Zinc Die Casting Usage Per Car (in lbs.)



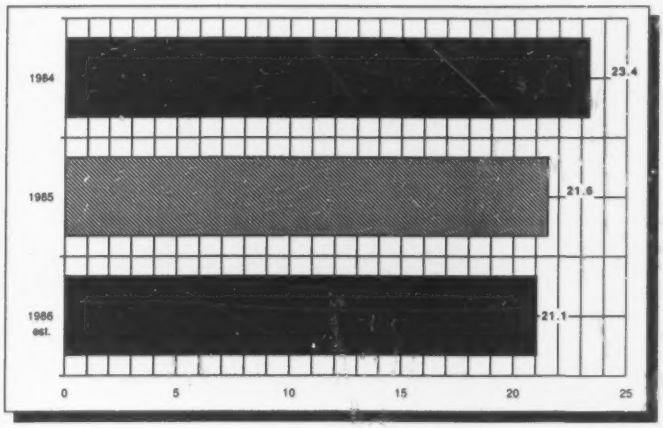
Average Optional Equipment Zinc Die Casting Usage (in lbs.)



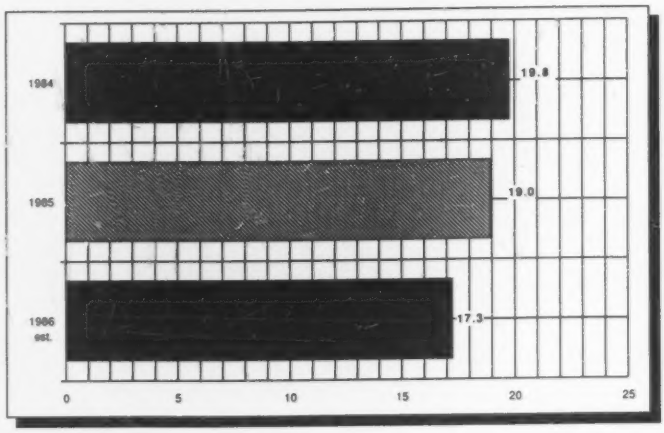
Average Zinc Die Casting Usage by Size Class (in lbs.)



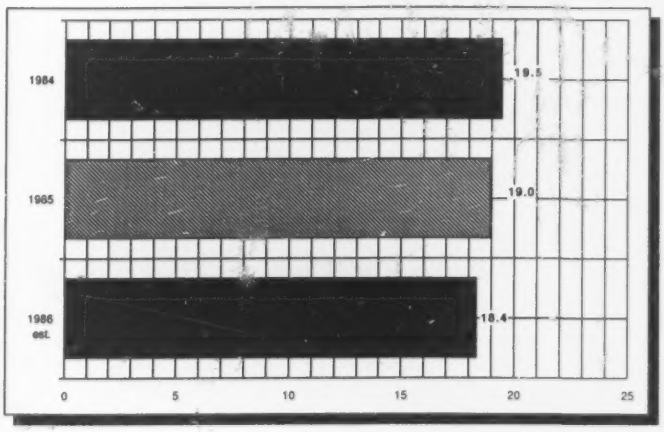
Average General Motors Per Car Usage of Zinc Die Castings (in lbs.)



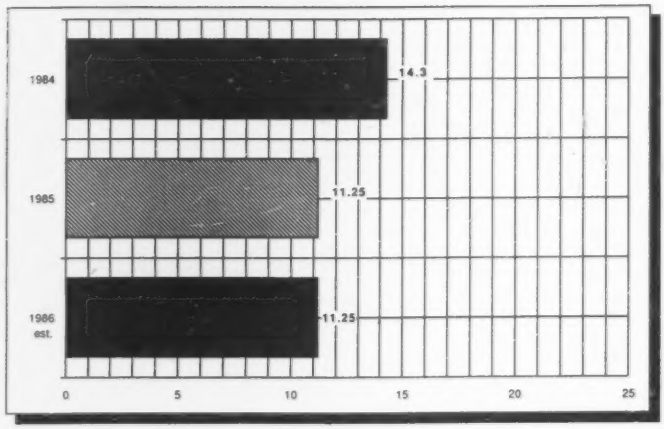
Average Ford Per Car Usage of Zinc Die Castings (in lbs.)



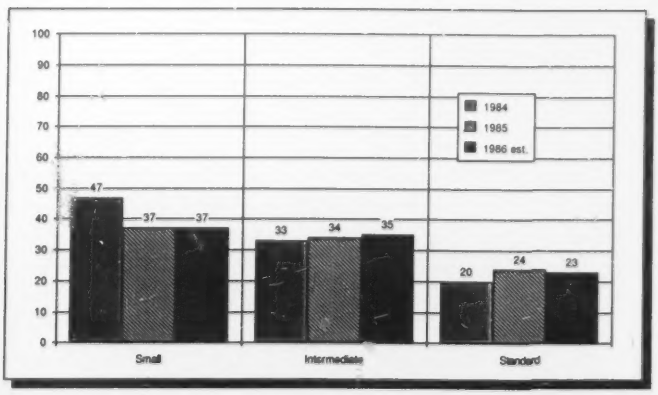
Average Chrysler Per Car Usage of Zinc Die Castings (in lbs.)



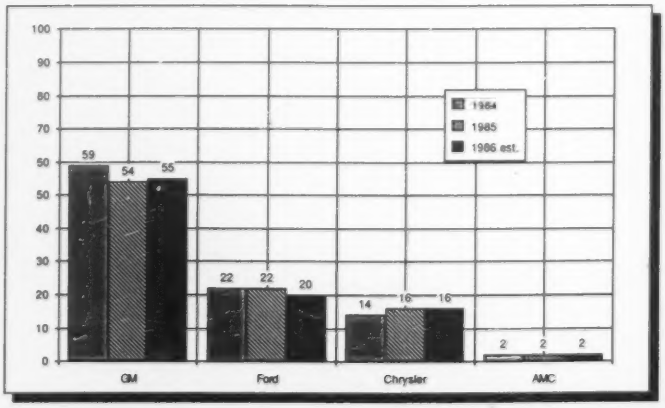
Average American Motors Per Car Usage of Zinc Die Castings (in lbs.)



Market Share by Class Size (in percent)



Market Share by Manufacturer (in percent)



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